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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KEVIN L. HOUSER, WILLIAM T. DONOFRIO, and FOSTER B. STULEN

Appeal 2015-003976
Application 11/392,040
Technology Center 3700

Before JENNIFER D. BAHR, LINDA E. HORNER, and BRANDON J. WARNER, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Kevin L. Houser et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1, 3–5, 7, 9–13, 17–19, and 21–26. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

THE CLAIMED SUBJECT MATTER

Claim 1, reproduced below, is illustrative of the claimed subject matter.

> 1. An ultrasonic surgical system comprising:
>
> an ultrasonic unit including an instrument operatively connected to an ultrasonic generator, wherein said instrument includes an end effector having a clamping element and an ultrasonic blade;
>
> a positioning unit including a movable arm, wherein said moveable arm is adapted to hold said instrument of said ultrasonic unit;
>
> a control unit in communication with said ultrasonic unit and said positioning unit, said control unit being programmed with a surgical subroutine for performing a plurality of surgical tasks in an operative cycle, wherein at least one surgical task of said plurality includes reversibly and repeatedly actuating said clamping element to apply a modulated clamping force to tissue clamped against said ultrasonic blade; and
>
> a user interface in communication with said control unit, said user interface being configured to initiate said operative cycle of said surgical subroutine such that said plurality of surgical tasks are automatically performed during said operative cycle.

REJECTIONS

I. Claims 1, 3, 5, 7, 12, 17, 22, 24, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson (US 2002/0177843 A1, pub. Nov. 28, 2002), Tovey (US 2001/0014801 A1, pub. Aug. 16, 2001), and Kramer (US 6,352,532 B1, iss. Mar. 5, 2002).

II. Claim 4 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson, Tovey, Kramer, and Truckai (US 6,773,409 B2, iss. Aug. 10, 2004).

III. Claim 9 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson, Tovey, Kramer, Witt (US 5,893,835, iss. Apr. 13, 1999), Tucker (US 4,486,928, iss. Dec. 11, 1984), and Viola (US 2006/0278680 A1, pub. Dec. 14, 2006).

IV. Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson, Tovey, Kramer, Witt, Tucker, Viola, and Okada (US 6,056,735, iss. May 2, 2000).

V. Claims 13 and 26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson, Tovey, Kramer, Talarico (US 2007/0078484 A1, pub. Apr. 5, 2007), Polla (US 5,607,433, iss. Mar. 4, 1997), and Shadduck (US 6,679,879 B2, iss. Jan. 20, 2004).

VI. Claims 18 and 19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson, Lemelson (US 5,464,013, iss. Nov. 7, 1995), Tovey, Kramer, and Francischelli (US 2005/0256522 A1, pub. Nov. 17, 2005).

VII. Claims 21 and 23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson, Tovey, Kramer, and Bisch (US 5,997,528, iss. Dec. 7, 1999).

DISCUSSION

Rejection I

Independent claim 1 recites "[a]n ultrasonic surgical system comprising," in relevant part, a "control unit being programmed with a surgical subroutine for performing a plurality of surgical tasks in an operative cycle, wherein at least one surgical task of said plurality includes reversibly and repeatedly actuating said clamping element to apply a modulated clamping force to tissue clamped against said ultrasonic blade." Appeal Br. 23 (Claims App.). Independent claim 17 also is directed to "[a]n ultrasonic surgical system" and recites a substantially similar limitation. *Id.* at 25.

The Examiner acknowledges that "the combination of Anderson and Tovey does not explicitly disclose that the clamping element is capable of being reversibly and repeatedly actuated to apply a modulated clamping force to tissue clamped against the ultrasonic blade." Final Act. 4. However, the Examiner finds that "it is well known that processors can be programmed to repeatedly actuate the clamping element to apply a modulated clamping force to tissue." *Id.* Specifically, the Examiner finds:

> Kramer teaches an ultrasonic surgical instrument that includes a clamp coagulator having a clamp arm assembly (200; Fig. 1) and a blade (81). An ultrasonic signal generator or "control unit" (15) may be programmed such that the force of the clamp arm assembly against the blade is decreased or increased (column 7, lines 10–21). During the alteration or modulation of the clamping force, the clamp is repeatedly actuated or moved when the force against the blade is increased or decreased.

Id. at 4–5. The Examiner determines that it would have been obvious to one of ordinary skill in the art at the time of the invention "to have provided the program of the combination of Andersen and Tovey with the cycle of

repeatedly and reversibly actuating the clamp, as taught by Kramer, to provide the desired load and force to a tissue." *Id.* at 5.

Appellants argue that Kramer "in no way suggests reversed and repeated actuation so as to produce a modulated clamping force during a single operative cycle." Appeal Br. 6. According to Appellants, "there is neither a disclosure of the recited series of actions (reversal and repetition of clamping actuation in a single operative cycle) nor an identified reason for combining the disclosed actions in the recited manner." *Id.* at 8. For the reasons that follow, Appellants' argument is persuasive of error in the rejection.

Kramer discloses pressure control system 84 for an ultrasonic surgical clamping instrument that can override an operator's use of actuation trigger 24. *See* Kramer, col. 6, ll. 65–67. Kramer discloses that "[u]ltrasonic signal generator **15** may be programmable such that, for example, when an overload condition is detected by ultrasonic signal generator **15**, an electrical signal may be sent to pressure transducer **86** causing piston **87** to retract, thereby decreasing the force of clamp arm assembly **200** against blade **81**." *Id.*, col. 7, ll. 10–15. Kramer also discloses that "ultrasonic signal generator **15** may be programmed for other conditions such as, for example, an increasing clamp arm force, a decreased clamp arm force, maintaining constant clamp arm force, an increased clamp arm force after a predetermined time, a decreased load after a set-point, or a constantly decreasing load." *Id.*, col. 7, ll. 16–22.

According to the Examiner, in order for Kramer "[t]o increase or decrease the force, the clamping element is either further clamped or further released from the tissue which requires repeated action from the clamping

element in continual increasing pressure or continual decreasing pressure." Ans. 15. The Examiner also explains that "[t]he increasing or decreasing force is *capable of being reversed*." *Id.* (emphasis added).

Appellants respond that, "[r]egardless of whether the . . . clamping element and control unit are capable of such action in the abstract, the Examiner does not establish that those elements would be programmed to perform the recited action." Reply Br. 5. In this regard, we agree with Appellants that, although Kramer's control unit may be capable of being programmed to reversibly and repeatedly actuate the clamping element, "[c]apability in the abstract is not enough – the combination of references must disclose or suggest programming the device in the recited manner." *Id.*; *see id.* (Appellants asserting that, "[w]hen [] functional language is associated with programming or some other structure required to perform the function, that programming or structure must be present in order to meet the claim limitation" (alterations in original) (citing *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1380 (Fed. Cir. 2011))). Moreover, claims 1 and 17 each recite a control unit "*programmed* with a surgical subroutine for performing a plurality of surgical tasks . . . includ[ing] reversibly and repeatedly actuating said clamping element to apply a modulated clamping force," not a control unit merely *capable of* being programmed to do so. Appeal Br. 23, 25 (Claims App.) (emphasis added).

Here, the Examiner does not sufficiently establish the presence, in Kramer's control unit, of programming to perform the function of reversibly and repeatedly actuating the clamping element. Regarding the Examiner's finding (Final Act. 5) that Kramer's increase or decrease in clamping force requires reversibly and repeatedly actuating a clamping element, this finding

is not supported by a preponderance of the evidence. We agree with Appellants that "an increase in force [requires neither] reversed nor repeated actuation, only additional actuation to a further extent, and does not cause repeated actuation of the clamp assembly." Appeal Br. 6; *see* Reply Br. 6 (Appellants noting that the Examiner does not explain why further clamping or release of the clamping element to increase or decrease force would require reversed and repeated actuation).

Furthermore, to the extent that the Examiner appears to take the position that it would have been obvious to modify (i.e., program) the control unit in the system of the proposed combination of Anderson and Tovey to reversibly and repeatedly actuate a clamping element (*see* Ans. 15; Final Act. 5), the Examiner does not sufficiently explain why such a modification would have been obvious to one of ordinary skill in the art. The Examiner's proffered reasoning, i.e., "to provide the desired load and force to a tissue" (Final Act. 5) states the result of the proposed modification but does not provide an apparent reason explaining why a person having ordinary skill in the art would have been led to make such a modification. The Examiner does not offer any evidence or reasoning to explain why reversibly and repeatedly actuating a clamping element to apply a modulated force to tissue would be desired by one of ordinary skill in the art.

For the above reasons, the Examiner's rejection lacks the requisite findings and reasoning to establish by a preponderance of the evidence that the proposed combination of Anderson, Tovey, and Kramer renders obvious the subject matter of independent claims 1 and 17. Accordingly, we do not sustain the rejection of independent claims 1 and 17, or of dependent claims

3, 5, 7, 12, 22, 24, and 25, under 35 U.S.C. § 103(a) as unpatentable over Anderson, Tovey, and Kramer.

Rejections II–V and VII

Dependent claims 4, 9–11, 13, 21, 23, and 26 incorporate the subject matter of independent claims 1 and 17 discussed *supra* with regard to Rejection I. *See* Appeal Br. 23, 24–25, 27, 28 (Claims App.). The Examiner does not articulate any additional findings or reasoning, or rely on any teachings in Truckai, Witt, Tucker, Viola, Okada, Talarico, Polla, Shadduck, or Bisch, that would remedy the aforementioned deficiency in Rejection I. *See* Final Act. 6–11. Accordingly, we do not sustain the rejections of claims 4, 9–11, 13, 21, 23, and 26 under 35 U.S.C. § 103(a).

Rejection VI

Independent claim 18 is directed to "[a] method for ultrasonically treating a tissue" and recites, in relevant part, a step of "programming said control unit with a surgical subroutine for performing a plurality of surgical tasks, wherein at least one surgical task of said plurality includes reversibly and repeatedly actuating said clamping element to apply a modulated clamping force to tissue clamped against said ultrasonic blade." Appeal Br. 26 (Claims App.). The Examiner addresses this limitation by relying on the same findings and reasoning vis-à-vis the combination of Anderson, Tovey, and Kramer discussed above with regard to Rejection I. *See* Final Act. 11–14. The Examiner does not articulate any additional findings or reasoning, or rely on any teachings in Lemelson or Francischelli, that would remedy the aforementioned deficiency in the Examiner's combination of Anderson,

Tovey, and Kramer with regard to programming the control unit to reversibly and repeatedly actuate the clamping element. *See id.* at 12, 14. Accordingly, we do not sustain the rejection of claim 18, or of claim 19 depending therefrom, under 35 U.S.C. § 103(a).

DECISION

The Examiner's decision rejecting claims 1, 3–5, 7, 9–13, 17–19, and 21–26 is reversed.

REVERSED